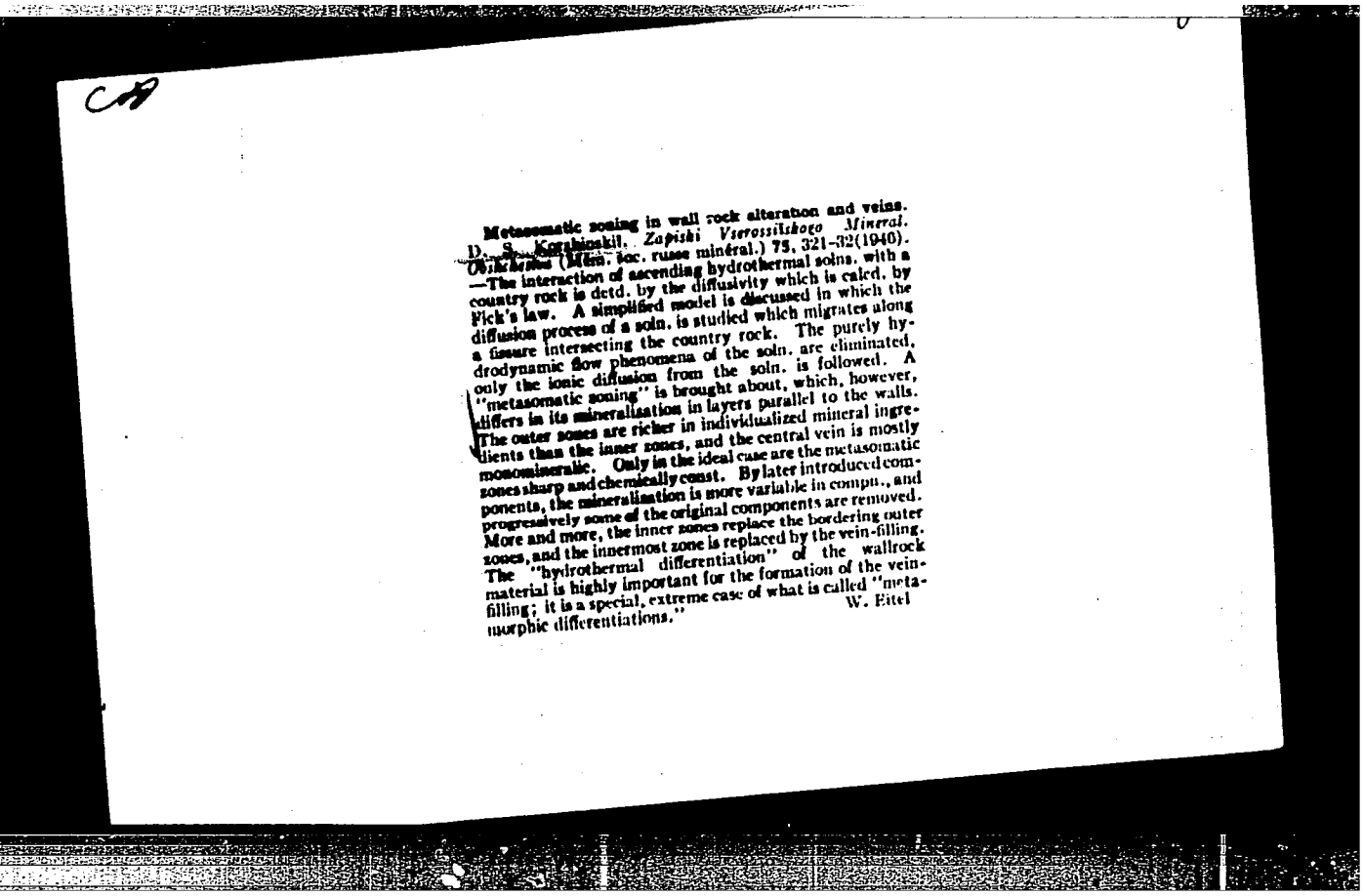
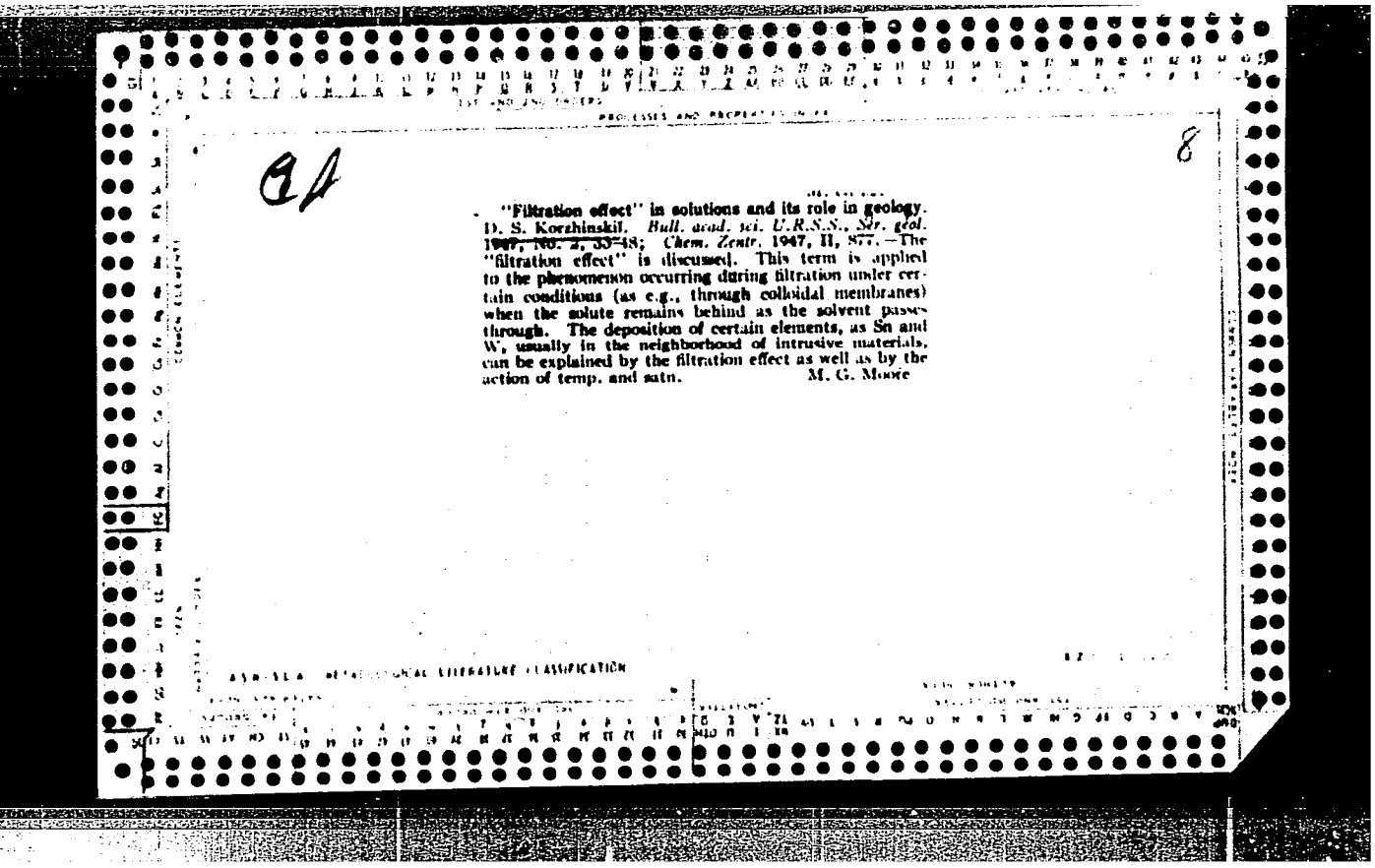


Metasomatic zoning in wall rock alteration and veins. D. S. Korzhinskii. *Zapiski Vserossiĭskogo Mineral. Obshchestva* (Mém. soc. russe minéral.) 75, 321–32(1940). —The interaction of ascending hydrothermal solns. with a country rock is detd. by the diffusivity which is calcd. by Fick's law. A simplified model is discussed in which the diffusion process of a soln. is studied which migrates along a fissure intersecting the country rock. The purely hydrodynamic flow phenomena of the soln. are eliminated, only the ionic diffusion from the soln. is followed. A "metasomatic zoning" is brought about, which, however, differs in its mineralisation in layers parallel to the walls. The outer zones are richer in individualized mineral ingredients than the inner zones, and the central vein is mostly monomineralic. Only in the ideal case are the metasomatic zones sharp and chemically const. By later introduced components, the mineralisation is more variable in compn., and progressively some of the original components are removed. More and more, the inner zones replace the bordering outer zones, and the innermost zone is replaced by the vein-filling. The "hydrothermal differentiation" of the wallrock material is highly important for the formation of the vein-filling; it is a special, extreme case of what is called "metamorphic differentiations."

W. Eitel



94

8

"Filtration effect" in solutions and its role in geology. D. S. Korzhinskiĭ. *Bull. acad. sci. U.R.S.S., Sér. géol.* 1947, No. 2, 33–48; *Chem. Zentr.* 1947, II, 877.—The "filtration effect" is discussed. This term is applied to the phenomenon occurring during filtration under certain conditions (as e.g., through colloidal membranes) when the solute remains behind as the solvent passes through. The deposition of certain elements, as Sn and W, usually in the neighborhood of intrusive materials, can be explained by the filtration effect as well as by the action of temp. and satn. M. G. Moore

1. BAKLAYEV, Ya. P.; GUKHMAN, N. Ye.; KORZHINSKIY, D. S.; KOROL'KOV, A. A.; SERGIYEVSKIY, V. M.; USHAKOVA, M. V.; and CHERNYSHEV, V. F.

2. USSR (600)

4. Turinsk District - Copper Ores

7. Turinsk group of copper ore deposits in the Urals. (Abstract.) Izv.Glav.upr.geol. fon.no. 3, 1947.

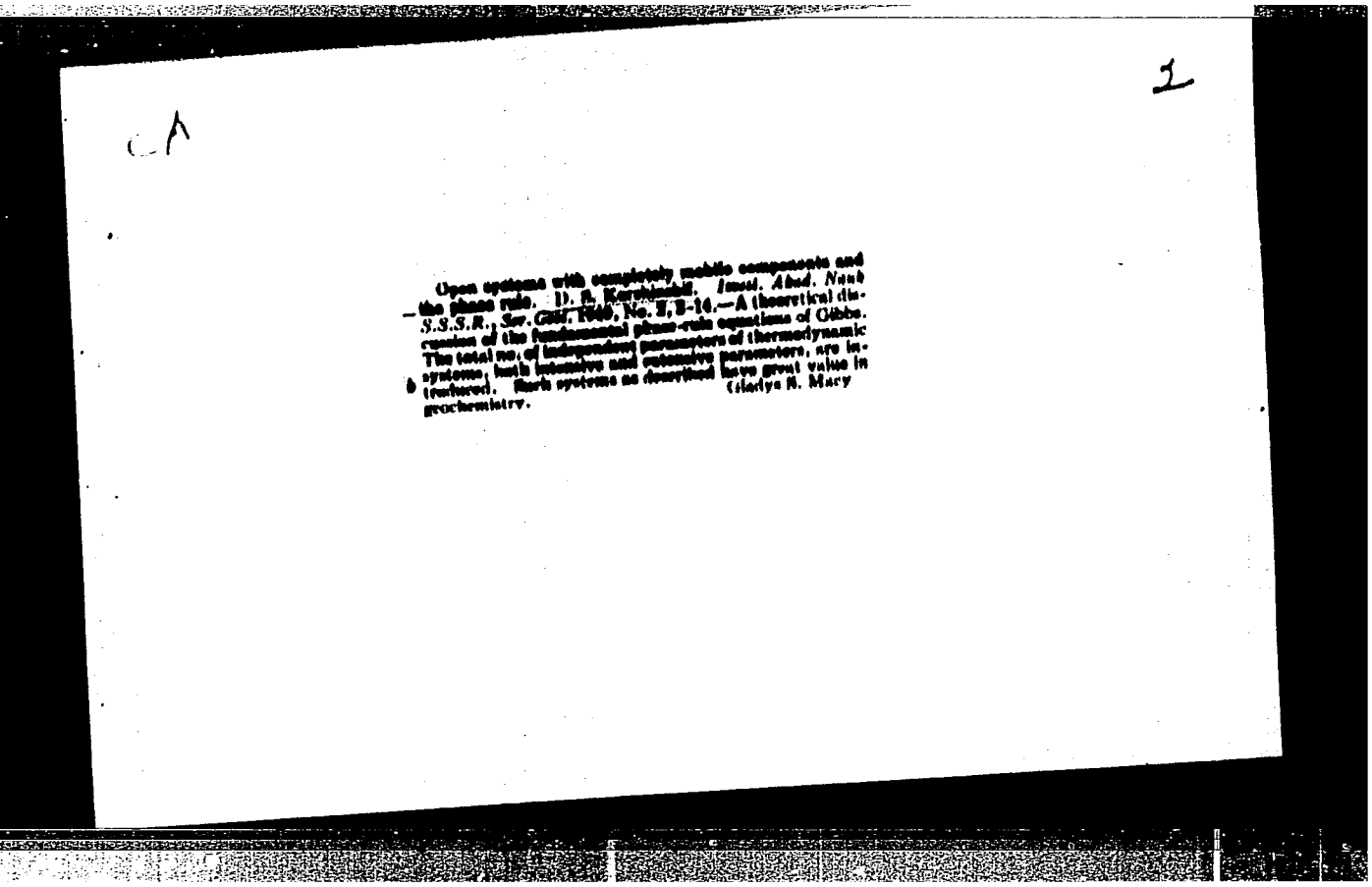
9. Monthly Lists of Russian Accessions, Library of Congress, March 1953, Unclassified.

KORZHINSKIY, D. S.

Copper Ores - Ural Mountain Region

Petrology of the Turinsk skarn deposits of copper. Trudy Inst. geol. nauk AN SSSR no. 68:1-146 '48

9. Monthly List of Russian Accessions, Library of Congress, July 1958, Uncl.



CA

1

Open systems with completely mobile components and the phase rule. D. P. Kargin-skii. *Inst. Abad. Nauk S.S.S.R., Sec. Gen. Khim.* No. 1, 3-14.—A theoretical discussion of the fundamental phase-rule equations of Gibbs. The total no. of independent parameters of thermodynamic systems, both intensive and extensive parameters, are introduced. Such systems as described have great value in geochemistry. (Gladys H. Macy

KORZHINSKIY, D.S.

Thermodynamic potentials of open systems and their application in geochemistry. D. S. Korzhinskii (Inst. Geol. Sci., Acad. Sci. U.S.S.R.). *Izvest. Sektora Fiz.-Khim. Anal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* **10**, 41–50(1949); cf. *Doklady Akad. Nauk S.S.S.R.* **66**, 361–4(1949).—Minerals and ores were deposited from open systems. An open system is defined as one in which the masses of the components can vary. Hydrothermal deposition and metasomatic changes are detd. by equil. factors in accordance with the 2nd law of thermodynamics and the phase rule. Formulas are derived for potential functions of various open systems. Potential is defined as a function of factors of state of a given system which (function) becomes min. at equil.

M. Hoseh

C.A.

The phase rule and systems with completely mobile components. D. S. Kamenetskii (Inst. Gen. Inorg. Chem., Acad. Sci. U.S.S.R.). *Doklady Akad. Nauk U.S.S.R.* 66, 201-4 (1949); cf. *C.A.* 44, 9180.—A continuation of studies of Gibbs' phase rule in relation to geochem. systems. The phase rule is applicable only to open systems, but in the literature there are contradictions on that point. A "system with completely mobile components" is defined as a system in which not only temp. and pressure, but also the chem. potentials of the components, depend on external conditions. Thus in such a system the no. of independent extensive parameters equals the no. of inert components, and the no. of independent intensive parameters equals the no. of completely mobile components plus 2. Under const. external conditions the state of such a system depends only on the content of inert components. If processes are studied under const. external conditions, systems with completely mobile components appear simpler, i.e., as if they were constituted by one inert component. G. S. M.

CA

8

Equilibrium factors in metasomatism. D. S. Korzhinskii. *Izvest. Akad. Nauk U.S.S.R., Ser. Geol.* 1950, No. 3, 21–49.—The following topics were studied: (1) the role of interstitial aq. solns. in metasomatism and metamorphism, (2) the types of metasomatic processes, (3) significance of chem. equil. for formation of metamorphic rock, and (4) the factors of equil. in metasomatism and metamorphism in general. Thermodynamic potentials were introduced in connection with the equil. discussed. Gladys S. Macy

KORZHINSKIY, D. S.

USSR/Minerals - Metasomatism Nov/Dec 51

"Infiltrative Metasomatic Zonation and Formation of Veins," D. S. Korzhinskiy

"Iz Ak Nauk SSSR, Ser Geol" No 6, pp 64-86

Owing to infiltration of solns rising through porous rocks, the mineral is replaced by a column of "infiltrative metasomatic zones." Author discusses physicochem schemes of possible cases of infiltrative metasomatism and the filling of empty spaces, based on his former theoretical studies. He concludes with evaluation of obtained schemes for conception of geol processes of mineral deposition and of formation of metasomatic and "autometasomatic" veins. 205T85

C.A

8

Derivation of equations for metasomatic infiltration zoning. D. S. Korzhinskiĭ. *Doklady Akad. Nauk S.S.S.R.* 77, 305–8(1951); cf. C.A. 44, 6785*d*, 9312*b*.—Metasomatic reactions of ascending hydrothermal solns. with the minerals of the surrounding country rock are highly important in geochemistry, and for the genesis of ore deposits. They bring a "metasomatic zoning" which is discussed by math. derivations of the elementary thermodynamic processes occurring in the "column" of metasomatic changes. Every section of this idealized column is for a defined concn. and vol. of the reacting soln. detd. by a corresponding equil. compn. of soln. and country rock surrounding it. During infiltration by the soln., the rate of the conversion is const. if the compn. of the rock and of the soln. in the pore vol. is maintained const. W. Eitel

C.A.

8

General marks of infiltration metasomatosis zones. D. S. Korzhinskiĭ. *Doklady Akad. Nauk S.S.R.* 78, 95-8 (1951); cf. C.A. 44, 9312b; 45, 2830e; preceding abstr.—A general discussion is given for the gradients of the chem. potentials along a column-shaped multicomponent soln. vol. flowing through a given multicomponent" country rock" of detd. porosity. Distinct "fronts" of metasomatic reactions and corresponding mineral formations are deduced from the general theory. The no. of the newly formed minerals is in every case lower than that of the "country rock," and may in many cases tend to monomineralic metasomatic deposits. The multiplicity of successive metasomatic zones is a consequence of the differentiation of the dissolved reacting components with different mobilities and solubilities. As an example of infiltration metasomatosis there is discussed the quartz impregnation in the roofs of quartz porphyries, in contact with acid volcanic intrusions, which is indicated by the formation of monomineralic quartzites, and in a higher zone of sericite-quartz rocks with sporadic pyrite, followed by orthoclase-albite-chlorite types. The decreasing no. of minerals with increasing intensity of metasomatosis is often observed; it is a particularity of metasomatosis, distinguishing this process from magnetic and metamorphic reactions and mineralizations. W. Eitel

USSR/Geophysics - Granitization, Magma Mar/Apr 52

"Granitization as Magmatic Substitution (Metasomatism)," D. S. Korzhinskiy

"Iz Ak Nauk SSSR, Ser Geol" No 2, pp 56-69

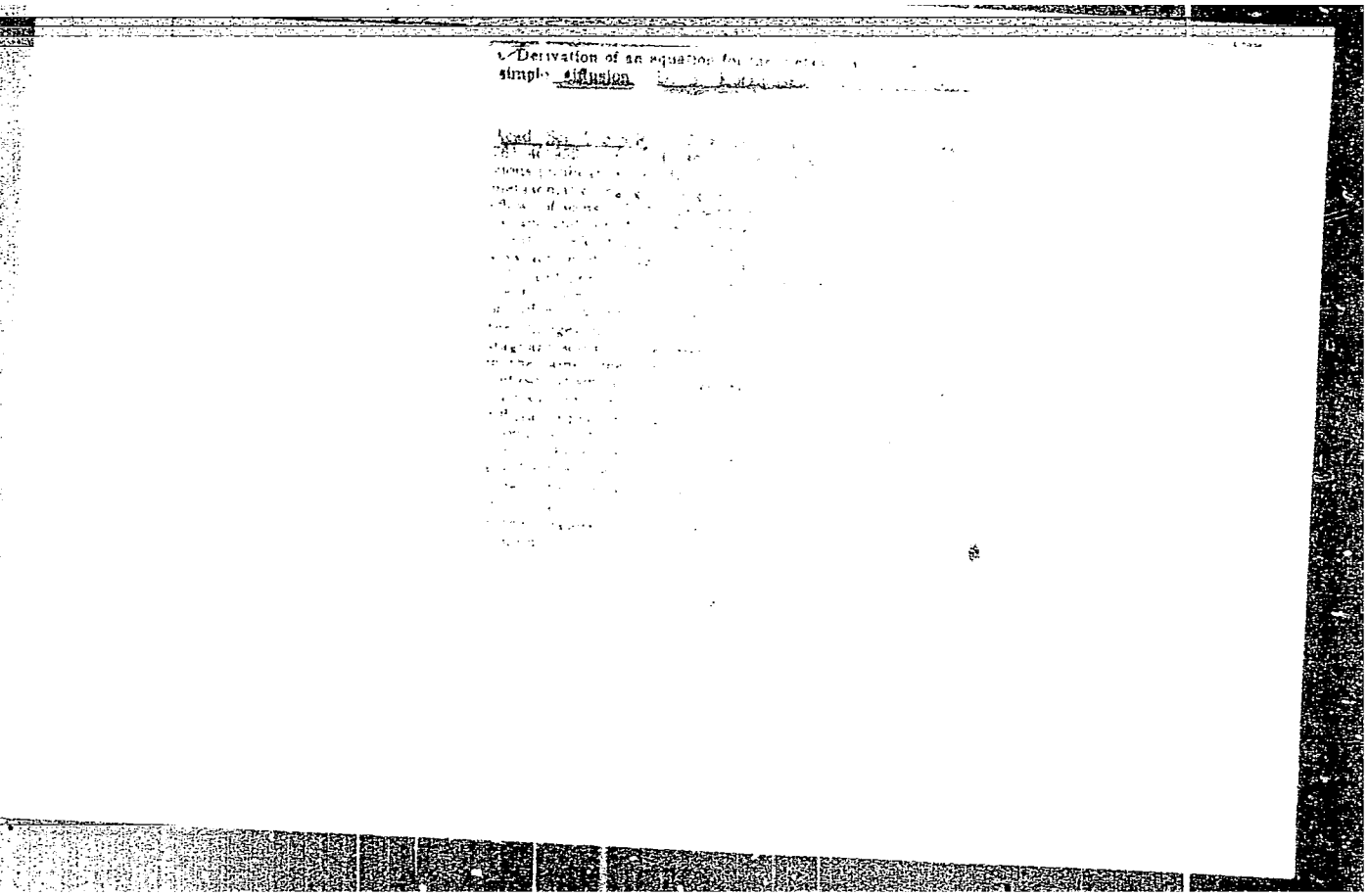
A report heard at a session of the Dept of Geol-Geog Sci, Acad Sci USSR, held 19 Jun 51. By considering as certain the wide distribution of substitution of sedimentary layers by granites, shows that the multi-mineral nature of granites and the stability of their quant-mineralogical compn proves the magmatic and not metasomatic character of this replacement. On the basis of

213T77

petrological and physicochem considerations, discusses granitization as "infiltrational magmatic substitution" occurring under the action, in mineral rocks, of currents of rising "diamagmatic" solns.

213T77

KORZHINSKIY, D. S.



Derivation of an equation for
simple diffusion

KORZHINSKIY, D. S.

Infiltration and diffusion variation in a metasomatic core drill in relation to minerals of variable composition. D. S. Korzhinskii. *Doklady Akad. Nauk. S.S.S.P.* 86, 597–600 (1952).—A theoretical discussion, from the point of view of the Gibbs phase rule, of the 3-component system: H_2O, difficultly volatile component a, and an easily sol. component f, with reference to minerals. J. S. Joffe

BETEKHTIN, A.G., akademik, glavnyi redaktor; VOL'FSON, F.I.; ZAVARITSKIY, A.N.; KORZHINSKIY, D.S.; LEVITSKIY, O.D.; NIKOLAYEV, V.A.; SOKOLOV, G.A., doktor geologo-mineralogicheskikh nauk, otvetstvennyi redaktor.

[Fundamental problems in the theory of magmatic ore deposits] Osnovnye problemy v uchenii o magmatogennykh rudnykh mestorozhdeniiakh. [Glavnyi redaktor A.G.Betekhtin]. Moskva, Izd-vo Akademii nauk SSSR, 1953. 615 p. (MLRA 7:5)

1. Akademiya nauk SSSR. Institut geologicheskikh nauk. (Ore deposits)

KORZHINSKIY, D.S.

Tasks of experimental work on the problem of metasomatic processes. (In: Soveshchanie po eksperimental'noi mineralogii i petrografii. 4th, Moscow, 1952. Trudy, Moskva, 1953. No.2, p.30-36).

(MLRA 7:3)

1. Institut geologicheskikh nauk Akademii nauk SSSR.
(Geochemistry) (Petrology)

KORZHINSKIY, D. S. Jul/Aug 53

USSR/Geology - Metasomatosis

"Theory of Infiltrational Metasomatosis With the Formation of Reaction Minerals," D. S. Korzhinskiy

Iz Ak Nauk SSSR, Ser Geol, No 4, pp 13-35

Develops the physicochem theory of infiltrational metasomatosis. Discusses the relation between numbers of components, zones, minerals, and degrees of freedom in an infiltration column. Analyzes the problem of crystallization pressure of multicomponent minerals. Presents the properties of concn diagrams. Investigates possible structural types of isothermic infiltrational metasomatic columns with minerals of complex compn. Also discusses the case of infiltrational metasomatosis under const pressure, but with variation in volume of displaced rock.

262T43

KORZHINSKIY, D.S., deystvitel'nyy chlen.

Infiltration metasomatism in the case of a temperature gradient and direct contact metasomatic leaching. Zap.Vses.min.ob-va 82 no.3:161-172 '53. (MLRA 6:11)

1. Institut geologicheskikh nauk Akademii nauk SSSR. (Metasomatism)

1. KORZHINSKIY, D. S.

2. USSR 600

4. Rocks, Crystalline and Metamorphic

7. Development of equations for infiltrational and diffusional metasomatic zonality, Dokl. AN SSSR, 88, No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

KORZHINSKIY, D.S.

[Theory of infiltration metasomatic zoning] Teoriia infil'-tratsionnoi metasomaticheskoi znoal'nosti. Moskva, Izd-vo Akademii nauk SSSR, 1954. 31 p. (MLRA 8:11)
(Metasomatism)

BETEKHTIN, A.G.; VOL'FSON, F.I.; ZAVARITSKIY, A.N.; KORZHINSKIY, D.S.; LEVITSKIY, O.D.; NIKOLAYEV, V.A.; SOKOLOV, G.A., redaktor, doktor geologo-mineralogicheskikh nauk; ALEKSEYEVA, T.V., tekhnicheskiy redaktor.

[Fundamental problems in the theory of magmatic ore deposits] Osnovnye problemy v uchenii o magmatogennykh rudnykh mestorozhdeniiakh. 2-e izd. Moskva, Izd-vo Akademii nauk SSSR, 1955. 622 p. [Microfilm] (MLRA 8:7)

(Ore deposits)

Korzhinskiy D.S.

USSR/ Physics - Solar energy

Card 1/1 Pub. 46 - 5/21

Authors : Korzhinskiy, D. S.

Title : Exaggeration of the role of solar energy in the energetics of the earth's crust

Periodical : Izv. AN SSSR. Ser. geol. 1, 52-64, Jan-Feb 1955

Abstract : The article is a criticism of the hypothesis of V. I. Lebedev and N. V. Belov according to which solar energy absorbed during the disintegration of aluminum silicates in connection with a change in the coordination of the atoms of aluminum serves as the main source of energy of endogenic processes. On the basis of existing thermal data the author shows the insignificance of the effects of reactions connected with the change of the coordination of aluminum. Fifteen references: 14 USSR and 1 USA (1940-1954).

Institution : .....

Submitted : .....

Korzhinskiy, D.S.

USSR/ Scientific Organization - Conferences

Card 1/1 Pub. 46-20/21

Authors : Korzhinskiy, D. S.

Title : Conference on the geology and formation of the ores of the Krivyy Rog iron-ore basin

Periodical : Izv. AN SSSR. Ser. geol. 1, 154-155, Jan-Feb 1955

Abstract : An account is given of a conference held from the 12th to the 20th of October 1954 in Krivyy Rog, which was called by the Department of Geological-Geographic Sciences of the Academy of Sciences of the USSR, the Institute of Geological Sciences of the Academy of Sciences of the Ukrainian SSR, and the Ministry of Ferrous Metallurgy of the Ukrainian SSR. The general questions of the geology and ore formations in Krivyy Rog were dealt with in papers read by various scientists present.

Institution : .....

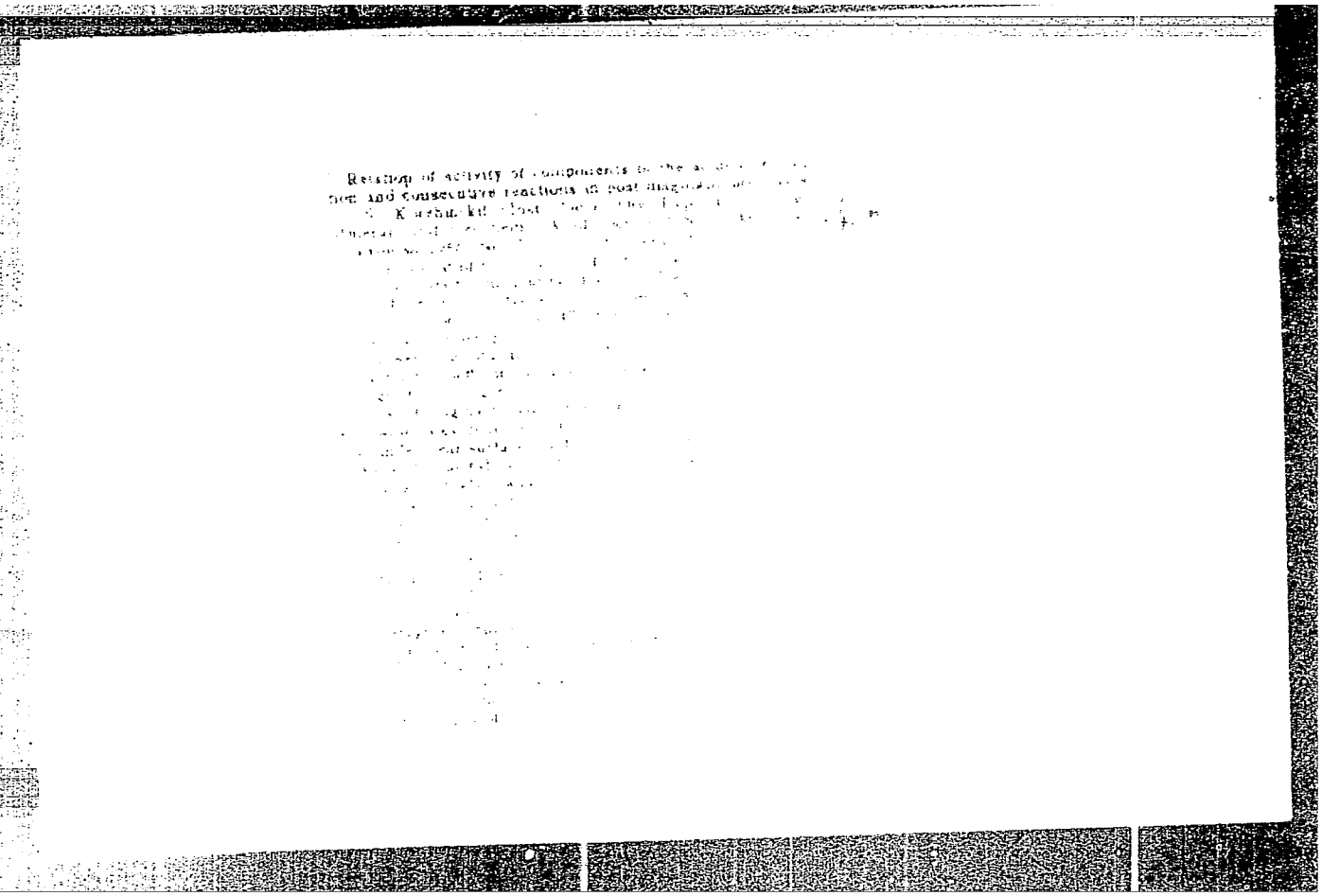
Submitted : October 28, 1954

KORZHINSKIY, D.S., deystvitel'nyy chlen.

Concerning V.F.Barabanov's article "Origin of micaceous phlogopite deposits." Zap.Vses.min.ob-va 84 no.1:122-123 '55. (MLRA 8:5)
(Phlogopite)

KORZHINSKIY, D.S.

Relation of high-grade ores of Krivoy Rog to processes of the zone of weathering. Kora vyvetr. no.2:239-243 '56. (MLRA 9:8)
(Krivoy Rog--Ore deposits)



KORZHINSKIY, D.S.

At the Indian Scientific Congress in Baroda. Izv.AN SSSR.Ser. geol. 21. no.4:95-101 Ap '56. (MLRA 9:8)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.
(Baroda, India--Geology--Congresses)

Korzhinskiy, D.S.

SHCHERBAKOV, D.I., akademik; SHATSKIY, N.S., akademik; MIRONOV, S.I., akademik; STRAKHOV, N.M., akademik; KORZHINSKIY, D.S., akademik; BETEKHTIN, A.G., akademik; NALIVKIN, D.V., akademik; POLKANOV, A.A., akademik; AFANAS'-YEV, G.D.; VLASOV, K.A.; CHUKHROV, F.V.; LEVITSKIY, O.D.; PAVLOVSKIY, Ye.V., professor; BARSANOV, G.P., professor; YERSHOV, A.D.; IVANOV, B.V.; YABLOKOV, V.S.; ARDASHNIKOVA, S.D.

Academician Vladimir Afanas'evich Obruchev, hero of socialist labor; obituary. Izv. AN SSSR. Ser.geol. 21 no.6:5-10 Je'56. (MLRA 9:10)

1. Chlen-korrespondent Akademii nauk SSSR (for Afanas'yev, Vlasov, Chukhrov, Levitskiy).
(Obruchev, Vladimir Afanas'yevich, 1863-1956)

Korzhinskiy, D. S.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 22 - 32/54

Authors : Korzhinskiy, D. S., Academician

Title : Derivation of thermodynamic potentials of systems with active components

Periodical : Dok. AN SSSR 106/2, 295-298, Jan 11, 1956

Abstract : The mathematical procedure followed in the determination of the thermodynamic potentials of chemical systems with active components is described and supported with an actual example. The meaning of the system with fully active components is explained. Data are presented on the potential functions of processes at which the chemical potentials of certain components retain their constant value even during phase conversions with equilibrium existence of two independent phases. All these data are mostly applicable to the theory of rock and ore formation processes and to processes of chem. technology. Seven references: 6 USSR and 1 USA (1936-1955).

Institution : Acad. of Sc., USSR, Inst. of Geological Sciences

Submitted : August 5, 1955

KORZHINSKIY, Dmitriy Sergeyevich, akademik; OL'SHANSKIY, Ya.I., otvetstvennyy redaktor; [illegible], K.M., redaktor izdatel'stva; SHEVCHENKO, G.N., tekhnicheskiy redaktor

[Physical and chemical principles for analyzing paragenesis of minerals] Fiziko-khimicheskie osnovy analiza parageneziseov mineralov. Moskva, Izd-vo Akad.nauk SSSR, 1957. 183 p. (MLRA 10:9)
(Mineralogy)

KORZHINSKIY, D.S.

SAFIANO, Tat'yana Alekseyevna; KORZHINSKIY, D.S., akademik, redaktor; BORNEMAN, I.D., doktor geologo-mineralogicheskikh nauk, redaktor; VAKHRAMEYEV, V.A., doktor geologo-mineralogicheskikh nauk, redaktor; GROMOV, V.I., doktor geologo-mineralogicheskikh nauk, redaktor; KELLER, B.M., doktor geologo-mineralogicheskikh nauk, redaktor; LEBEDEV, A.P., doktor geologo-mineralogicheskikh nauk, redaktor; KHAIN, V.Ye., doktor geologo-mineralogicheskikh nauk, redaktor; SHERBYS, N.A., doktor geologo-mineralogicheskikh nauk, redaktor; YABLOKOV, V.S., kandidat geologo-mineralogicheskikh nauk, redaktor; MERKLIN, R.L., kandidat biologichpskikh nauk, redaktor; VAYSMAN, L.S., nauchnyy sotrudnik, redaktor; SLAVYANOVA, N.F., nauchnyy sotrudnik, redaktor; LEPESHINSKAYA, Ye.V., redaktor; TUMARKINA, N.A., tekhnicheskiy redaktor

[English-Russian geological dictionary] Anglo-russkii geologicheskii slovar'. Pod red. D.S.Korzhinskogo i dr. Moskva, Gos. izd-vo tekhniko-teoret.lit-ry, 1957. 528 p. (MIRA 10:7)
(English language--Dictionaries--Russian)
(Geology--Dictionaries)

KORZHINSKIY, D.S.

10-6-9/13

SUBJECT: CANADA/Obituary

AUTHOR: Korzhinskiy, D.S.

TITLE: Norman Levy Bowen (Norman Levi Bouen)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1957, # 6, p 108-109 (USSR)

ABSTRACT: The author gives a brief description of the life and scientific activities of N.L. Bowen, Member of the USA National Academy of Sciences, who died in September 1956.

The late Mr. Bowen was characterized as an outstanding petrologist-theorist, and the significance of his theory of origination processes of eruptive rocks by means of crystallization differentiation was stressed.

INSTITUTION: Not indicated

PRESENTED BY:

SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress

Card 1/1

KORZHINSKIY, D.S.

10-6-13/13

SUBJECT: USSR/Geology

AUTHOR: Not listed

TITLE: Celebration in Honour of Academician Betekhtin, A.G. (Chestvovaniye akademika A.G. Betekhtina)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1957, # 6, p 127 (USSR)

ABSTRACT: On 12 April 1957, the 60th birthday and 30 years of scientific activity of Academician Anatoliy Geogiyevich Betekhtin were celebrated in the House of Scientists.

In his inauguration speech, Academician-Secretary of the Section of Geologic-Geographical Sciences D.I. Shcherbakov characterized the fruitful activity of A.G. Betekhtin as an outstanding mineralogist and expert in geology of ore deposits.

Betekhtin is the author of over 200 published scientific works, including some fundamental investigations ("Platinum", "Minerals of the USSR", "Mineralogy", etc.), handbooks on mineralogy, and others.

Academician D.S. Korzhinskiy in his report titled: "Physico-

Card 1/2

KORZHINSKIY, D.S.

11-12-1/10

AUTHOR: Korzhinskiy, D.S.

TITLE: Acidity State of Postmagmatic Solutions (Rezhim kislotnosti poslemagmaticheskikh rastvorov)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1957, # 12, p 3-12 (USSR)

ABSTRACT: Irrespective of the temperature of the formation of post-magmatic mineral deposits, the degree of acidity always changes. The article deals with the probable causes of these processes. Attention is drawn to accelerated filtration of several acid components of the solutions, which causes an initial rise and subsequent lowering of acidity. It is shown by way of analysis that increased acidity of the solutions increases the degree of ionization for bivalent and trivalent bases at a faster rate than for single-valent ones. Therefore, the acid postmagmatic state of mineral deposits located among basic and alkaline rocks is manifested in a different way, than when these are embedded in rocks of acid reaction. The author examined in detail the changes of acidity and their likely causes as well as their dependence on the basicity of surrounding rocks. He elaborated 10 formulas on these subjects. The postmagmatic process can be classified into 3 main types as follows:

Card 1/2

KORZHINSKIY, D.S.

25-12-10/39

AUTHOR: Korzhinskiy, D.S., Academician

TITLE: Important Changes (Vazhnyye peremeny)

PERIODICAL: Nauka i Zhizn', 1957, # 12, p. 9 (USSR)

ABSTRACT: Artificial satellites will circle the moon in the near future. Direct information of the surface and composition of the surface of the moon will be of greatest interest for geologists.

AVAILABLE: Library of Congress

Card 1/1

KORZHINSKIY, D.S.

PA - 2501

AUTHOR not given.
TITLE Consultation on the most important problems of Geology. (Obsuzhdyeniye vazhnykh problem Geologii.- Russian)
PERIODICAL Vestnik Akademii Nauk SSR 1957, Vol 27, Nr 2, pp 98-100 (U.S.S.R.)
Received: 5/57 Reviewed: 6/57

ABSTRACT On the 29 November a consultative meeting of the collaborators of the department for geological and geographical science of the Academy was held for the purpose of holding a general discussion on the work being carried out at the department which, according to orders issued by the director's office, will now be done regularly within certain periods. D.S. Korzhinskiy, member of the Academy, delivered a lecture on the "Dependence of Component Activity on the Acidity of Solutions and the Order of Reactions in the case of Non-magnetic Processes". The lecturer dealt with the equations of the dependence of the general activation coefficients of bases and acids on the concentration of hydrogen ions in the solution, which he obtained on the basis of the method developed by J.E. Ritchie (1952) on the mathematical treatment of problems connected with acidity- alkality of aqueous solutions. It follows from the equation that an increase of the acid content of the solution reduces the activity coefficients of the

CARD 1/3

Consultation on the most important problems of Geology.

dissolved bases and, at the same time, increases the general coefficients of acid activity; on this occasion this modification of the activity coefficient becomes all the more important the stronger the base or the acid is, i.e. the more they are ionised. On the basis of a number of examples of inflitration of the solutions in nature the lecturer arrives at the conclusion that such processes "confirm the inflitration like character of metamorphism, separation of ore, and granitisation."

A further cause of the variability of the acidity of solutions can be due to a drop of temperature and pressure, and possibly also to interaction with the gas phase. The lecturer here draws the conclusion that at high temperatures ore minerals are represented by oxides which go over into sulphides in the acid stage. At low temperatures, on the other hand, sulphides are in turn replaced by oxides and carbonates.

On the occasion of a following meeting held on 27 November 1956 D.V. Nalivkin, member of the Academy, delivered a lecture on "Tectonics and Increase of Precipitation", in which he expressed the opinion that although tectonics is looked upon as the main case of the increase of precipitation, there are also other circumstances, as e.g. the chimatic

KORZHINSKIY, D.S.

AUTHOR: Korzhinskiy, D. S. Academician 30-12-45/45

TITLE: A Valuable Bibliographical Edition+)
(Tsennoye bibliograficheskoye izdaniye).

PERIODICAL: Vestnik AN SSSR, 1957, Vol. 27, Nr 12, pp. 130-130 (USSR)

ABSTRACT: A bibliographical work has appeared in print under the title of "Iron Ores". It contains a list of all books and periodicals articles taken from reference works, works written by men of learning and by scientific institutions, Works of conferences, congresses, and meetings dealing with the geology and exploitation of mineral resources as well as with the preparation of iron ores for smelting between the 18th century and 1954. The work contains 10557 references the majority of which is in Russian. From foreign literatures mainly such works are referred to here as were published in English, French, German, and Swedish on the enrichment and preparation of ores for smelting. The material compiled is divided into 3 groups: Geology of iron ore deposits in the USSR, Exploitation of the iron ore deposits in the USSR and in other countries, Enrichment and preparation of iron ores for smelting in the USSR and in other countries. The great majority of the works enumerated in the 1. part deals with

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the geology of individual deposits and is subdivided first according to larger economic areas of the USSR, and then according to administrative districts, so that the reader is easily able to survey the situation. The remaining part deals with general problems of stratigraphy, tectonics, the genesis of iron ore deposits, geochemistry, mineralogy, petrography, methods of research, etc. The 2. part deals with the projecting and the building of mines, various systems of working and processing, blasting work, the mechanization of transports drainage, ventilation, the struggle against dust, energetics, mine surveying, etc. as well as with problems of organization and the economy of the iron industry. The 3. part contains: Technology of enrichment, preparation of iron ores for smelting by various methods, establishment and equipment of enrichment plants, storing and neutralization of ores, production of briquets, agglomeration, and the establishment and equipment of agglomeration plants, accident prevention in enrichment- and agglomeration plants. Among Soviet bibliographical works there are manuals on [redacted] metallurgy which also contain articles on iron ores. A special bibliographical reference

work, which deals with all problems from different points of view, has now been published for the first time. It will no doubt be of great help to geologists, miners, enrichers, and economists working in scientific pedagogical institutes as well as to workers in firms and authorities of industrial administration.

+) "Iron Ores". A bibliographical Work of Reference. Compiled by I. S. Shapiro, chief editor Academician I. P. Bardin Edition published by the AN USSR, Moscow 1957, 768 pages, edition of 3000 copies. Price: 50 Roubles.

AVAILABLE: Library of Congress

1. Geology—Bibliography 2. Iron ores—Applications

KORZHINSKIY, D.S.

11-1-4/29

AUTHOR: Shabynin, L.I.

TITLE: The Genesis of South Yakutsk Iron Ore Deposits (O genezise yuzhno-yakutskikh zhelezorudnykh mestorozhdeniy)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geologicheskaya, 1958, # 1, pp 43-61 (USSR)

ABSTRACT: The article deals with the principal characteristics of geological structures and the composition of rocks and ore deposits of the South Yakutsk iron ore deposits, inclusive the complex boron-iron ores. The author reviews the various conceptions of the formation of these deposits, whereby the sedimentary-metamorphic genesis is being refuted, and the skarn character proven. There are no analogies in the USSR to the Pre-Cambrian South Yakutsk crystalline complex iron deposits of the Aldan shield. The questions of genesis of these deposits have been examined lately by several geologists, whereby the following 3 viewpoints were expressed: 1. The deposits are of the contact-metasomatic type (D.S. Korzhinskiy, L.I. Shabynin). 2. Mineral deposits are formed as a result of regional metamorphism of sediments with high iron and boron concentrations; only in some locations occurred a shifting of iron and boron (D.P. Serdyuchenko). 3. Iron

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ores and the surrounding calcareous-magnesium and magnesium rocks are formed as a result of regional metasomatic replacement of Pre-Cambrian rocks in connection with the erosion of potassium, magnesium and iron from the place of granitization and transfer into higher structural strata (N.G. Sudovikov, M.D. Krylova). The iron ore deposits of South Yakutsk can be subdivided into the following four territorial groups: 1. South-west - Nirichevskoye, Levo and Pravo Desovskoye deposits. 2. South - Sivaglinskoye, Pionerskoye and Komsomol'skoye deposits. 3. North and north-west - Yemel'dzhanskoye and Tsentral'no-Aldanskoye deposits. 4. South-east - Tayezhnoye, Magnetitovoye, Legliyerskoye and Tinskoye deposits. The majority of these deposits are found in crystalline layers of the Fedorov formation. With regard to their genetic formation, mineral composition and skarns, all of these iron ore deposits are of the same type. A very characteristic property of the structure is the clearly discernable metasomatic zoning of the examined deposits. Mineral paragenesis of magnetic ores of the main phase (high temperatures) at South Yakutsk is uniform. With regard to ores, the author distinguishes between 2 types of paragenesis: 1. magnesium skarns formed in dolomites. 2. paragenesis occurring

at the replacement of ores by rocks located close to skarns and skarned granites, magmatic crystalline formations and gneiss rocks. The author gives a detailed description of the chemical composition and the geological structure of rocks of these two groups. All geologists who have studied the Aldan shield agree that the most outstanding characteristic of rocks of this complex is the absence of changes of mineral composition caused by middle and low temperatures. In places, where such changes were found to have occurred, they were always the result of recent magmatism or processes of ore forming. The author disagrees with the conceptions of D.P. Serdyuchenko, who believes the Aldan deposits to be of sedimentary-metamorphic origin.
There are 1 figure, 6 photographs, 25 Russian, 1 Swedish, 2 Japanese, 1 German and 3 British references.

ASSOCIATION: Geologic Institute of Mineral Deposits, Petrography, Mineralogy and Geochemistry of the USSR Academy of Sciences, Moskva (Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva)

AVAILABLE: Library of Congress

KORZHINSKIY, D.S.

"Introduction to the study of metamorphic rocks and ore deposits; physical chemistry and thermodynamics" [in French] by Pierre Laffitte. Reviewed by D.S. Korzhinskii. Geokhimiia no.2:177 '58. (MIRA 12:4)

(Petrology)

SOV/7-58-5-12/15

AUTHOR: Korzhinskiy, D. S.

TITLE: A Discussion on the Number of Variables of System States (Answer to I.V.Aleksandrov)(Diskussiya - O chisle faktorov sostoyaniya sistem (otvet I.V.Aleksandrovu))

PERIODICAL: Geokhimiya, 1958, Nr 5, pp. 503 - 505 (USSR)

ABSTRACT: This article is a reply to the contribution made by I.V. Aleksandrov to the discussion under the title " On the Conclusions Drawn by D.S.Korzhinskiy From the Phase Rule" (Ref 1). For the purpose of explanation the author discusses in detail the concept of "thermodynamic state parameter" (termodinamicheskiye parametry sostoyaniya). They are divided into intensive (temperature, pressure, chemical potentials and concentration of the components etc.) and extensive parameters, i.e., parameters depending on the mass (volume, entropy, mass of the components or phases etc.). V.Gibbs did not attach any special importance to the extensive parameters in the derivation of the phase rule. The term "phase parameter" for extensive parameters is, however, justified as extensive parameters occur in the equation of state.
I.V.Aleksandrov criticizes the equation

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A Discussion on the Number of Variables of System States (Answer to I.V.Aleksandrov) SOV/7-58-5-12/15

$f_{in} + f_{ex} = k + 2$. He is opposed to the break with tradition; he does, however, not take the trouble of demonstrating the incorrectness or uselessness of the formula by means of a concrete example. V.A.Nikolayev suggested the term "full variability" (polnaya variantnost') in a critical comment; this term is not logical; therefore the terms used hitherto, viz., "number of variables of state" (chislo faktorov sostoyaniya) or "number of the independent parameters" (chislo nezavisimykh parametrov) should be maintained. There are 7 references, 7 of which are Soviet.

SUBMITTED: April 26, 1958

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KORZHINSKIY, D.S.

AUTHOR: Khitarov, N. I. SOV/7-58-5-14/15

TITLE: Transactions of the Second All-Union Conference on Petrography (Vtoroye Vsesoyuznoye petrograficheskoye soveshchaniye)

PERIODICAL: Geokhimiya, 1958, Nr 5, pp. 507 - 508 (USSR)

ABSTRACT: The second All-Union Conference on Petrography took place at Tashkent from May 19 to 23, 1958. It was attended by about 600 scientists from home and abroad. About 20 scientific lectures were held at the plenary meetings. The Minister of Geology and the Protection of Mineral Deposits of the USSR P.Ya.Antropov spoke twice. He dealt with the state of geology in the Soviet Union and with the tasks of the geologists in science and practical work. The lecture delivered by V.A.Nikolayev dealt with the investigation of a system with unequal pressure exerted on the phases, and the application of the processes of endogenic mineral formation. D.S.Korzhinskiy spoke about "Acidity - Basicity, the Most Important Factor of Magmatic and Post-Magmatic Processes". Yu.A.Kuznetsov suggested a classification of the magmatic formations which is based on the most important tectonic structural types and the

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magmatism connected with them. N.P Semenenko lectured on the genetic classification of metamorphous rocks and processes. V.P.Petrov pointed to the necessity of introducing new research methods into practical petrographic work. N.I.Khitarov spoke about the water content of basalt magma. V.S.Koptev -Dvornikov et al., in their lecture presented the results obtained by the collaborators of the IGEM, GEOKhI, AS USSR, and MGU in the investigation of the granitoids from various areas of the Union. The lecture delivered by Yu.I.Polovinkina dealt with geological rules governing the development of the magmatism in the area of the USSR. G.S.Dzotsenidze reported on the role played by the effusive volcanism in the formation of useful deposits. Sh.A.Azizbekov and collaborators dealt with the magmatism and the metallogenesis in Azerbaydzhan. I.G.Magak'yan and S.S.Mkrtchyan reported on the genetic relation between mineralization and magmatism as shown by the example of the Malyy Kavkaz. Kh.M.Abdullayev spoke about the magmatism and the metallogenetic processes in Central Asia connected with it (Srednyaya Aziya). Ye.D.Karpova delivered a lecture on the "Intrusive and Ore Complexes in the Tectonic Zones of the

Southern Tien Shan". . Then D.N.Yelyutin and collaborators spoke about the formation of the intrusive complexes in the Northern zone of the Tien Shan . R.B.Baratov reported on peculiarities of the magmatism and the metallogenesis in Tadzhikistan. At the final session A.A.Polkanov and E.K. Gerling spoke about the potassium-argon method for the determination of the absolute age of rocks, and G.D.Afanas'yev on the determination of the absolute age of rocks and their geological importance. Furthermore the following lectures were held: S.Dimitrov (Bulgaria) "On the Magmatism and the Ore Deposits in Bulgaria". Koutch (German Democratic Republic) "On the Genetic Peculiarities of the Mansfeld Slates". M.Savula (Roumania) "On the Application of the Method of Investigating Liquid Inclusions to Petrographic Problems". K.Smulikovskiy (Poland) "On the Genetic Classification of Granitoids". More than 70 lectures were held in 4 departments. Details of the transactions are to be presented in a special publication: Transactions of the Second All-Union Conference on Petrography (Materialy ko vtoromu Vsesoyuznomu petrograficheskomu soveshcha-

niyu). After the Conference two excursions were organized. The Third Petrographic Conference is to take place at Novosibirsk.

KORZHINSKIY, D.S.

26-58-7-8/48

AUTHOR: Smirnov, V.I., **Corresponding Member** of the AS USSR

TITLE: Ore From Magma (Ruda iz magmy)

PERIODICAL: Priroda, 1958, Nr 7, pp 51-54 (USSR)

ABSTRACT: The Leningradskiy gornyy institut (Leningrad Mining Institute) is a traditional center of Russian and Soviet mining research. K.I. Bogdanovich, V.A. Obruchev, A.E. Fersman, S.S. Smirnov (deceased) and Yu.A. Bilibin are quoted as eminent advocates of the theory of the magmatogenous origin of the ores. The article then gives a positive appraisal of contemporary Soviet research results with respect to the origin of the ores from magma as laid down in the book "Fundamental Problems in the Study of Magmatogenous Ore Deposits" published by the Publishing House of the AS USSR in 1955 and written by Lenin Prize winner A.G. Betekhtin, Academician A.N. Zavaritskiy, **Corresponding Member** V.A. Nikolayev, Academician D.S. Korzhinskiy and Member-Correspondent O.D. Levitskiy.
There are 4 photos.

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Ore From Magma 26-58-7-8/48

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.L. Lomonosova (The Moscow State University imeni M.V. Lomonosov)

1. Ores--Sources

Card 2/2

AUTHOR: Korzhinskiy, D.S. SOV-11-58-8-11/14

TITLE: Helge Backlund (Khel'ge Baklund)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya Geologicheskaya, 1958, Nr 8, pp 122-123 (USSR)

ABSTRACT: This is an obituary of Helge Backlund, Professor Emeritus of the Upsala University.

1. Instructors--USA

Card 1/1

AUTHOR: Korzhinskiy, D. S. SOV/76-32-7-14/45

TITLE: Extremal States in Systems With Perfectly Mobile Components (Ekstremal'nyye sostoyaniya v sistemakh s vpolne podvizhnymi komponentami)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 7, pp.1536-1544 (USSR)

ABSTRACT: In connection with the theorem of Gibbs-Konovalov and the publications by Saurel (Ref 5), Jouguet (Ref 6), and J. Prigogine and R. Defay (Ref 7), as well as by A. V. Storonkin (Ref 8) in which the extremal conditions of temperature and of pressure in closed polycomponent systems were investigated, in the present paper this problem is investigated in generalized parameters. Proceeding from the equation by Gibbs-Duhem the author derives an equation for the "linear dependence between the specific parameters x_1, ... x_f in f phases " using the formula by Kramer. By means of the example of the reaction equilibrium $CaO + CO_2 = CaCO_3$ it is found that a linear relation exists only between the content of two components in three phases and that it does not refer to the specific volumes or to entropy, while in the case

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Extremal States in Systems With Perfectly Mobile Components

of the second type of the extreme "uncertain state" no new phases form and the number of linearly dependent specific phase parameters is equal to that of the phases, or exceeds their number. After an investigation of the various conditions of the linear dependence it is found that extremal states of the system which cannot be determined always correspond to the extremal values of the "intensive" parameters. The author points out the incorrect conclusion made by A. V. Storonkin, that "extremes of the pressure and of the temperature always take place at the same time and that they can not be considered separately". The Gibbs-Konovalov theorem is interpreted as follows: If according to $t_1 \ldots t_{k+2}$, as may be seen, the parameters T, p, $\mu_a \ldots \mu_k$ are taken in an arbitrary sequence and for $x_1 \ldots x_{k+2}$ are connected with them in the equation according to Gibbs-Duhem, the specific parameters are s, v, $N_a, \ldots N_k$. On this basis examples are considered of the extremal states in polycomponent systems with perfectly mobile components in which the chemical potentials of some components are independent variables, binary and ter-

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Extremal States in Systems With Perfectly Mobile Components

nary systems being studied. It is found that in the case of chemical potentials which are determined by external conditions the extreme states do not depend on the content of the perfectly mobile components but only on the ratio of the content of inert components and the volumes and the phase entropy with respect to the content of inert components. There are 4 tables and 8 references, 5 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii
(Institute of the Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry, AS USSR)

SUBMITTED: March 7, 1957

Extremal States in Systems With Perfectly Mobile Components SOV/76-32-7-14/45

1. Chemical compounds--Theory 2. Chemical compounds--Temperature factors
3. Pressure--Chemical effects 4. Mathematics

Card 4/4

AUTHOR: Korzhinskiy, D. S., Member, Academy of Sciences, USSR

SOV/2o-122-2-28/42

TITLE: Hydrothermal Acidoalkaline Differentiation (Gidrotermal'naya kislotno-shchelochnaya differentsiatsiya)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 2, pp 267 - 27o (USSR)

ABSTRACT: The leaching out and the subsequent precipitation of the bases are bound to each other. This is an interesting peculiarity of the postmagmatic changes of rocks. The rocks from which the bases were leached out contain as a rule a net of veinlets and veins in which the subsequent precipitation of the bases takes place, both of the bases leached out from the autochthonous rocks and also from the alochthonous magmatogene ones. Whereas the leaching in the rocks spreads in the form of a continuous front, the precipitation of the bases is bound to cracks. Amidst of the leached stones, veinlets and veins are formed. The connection of the two processes cannot be explained by the theory of "pulsation" applied so far. It is better understood from the hypothesis

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of the "advanced wave of the acid components". According to this hypothesis a sudden increase of acidity of the magma and of the solutions occurs during the magma crystallization and especially during the subsequent condensation and solidification of the supercritical postmagmatic solutions. Thus, the acid components infiltrate quicker in consequence of the supposed "acid-filtration-effect" (Ref 1) in the surge of aqueous solutions ascending through the rocks. Thus, in the surge of solutions an advanced "wave" of an increased acidity is formed (Ref 1). In each given cross section of the surge of the percolating solutions an increase of acidity first occurs, if the wave of acidity passes. Thereby the rocks are leached out. Then the acidity drops when the acid components are drained off. Thus, the bases are precipitated again from the solutions. Since the pores in the rocks are dilated while the acidity increases, the permeability of the rocks increases too. After the already mentioned "wave" of the acid components drained off, the precipitation prevails the dissolution. By this the pores are obstructed. In consequence, the pressure in the solutions rises. The

solutions are squeezed out into the cracks and can ascend by this way only. The cracks are filled up by the precipitates of the solutions according to the draining off of the acid components. This is the hypothesis suggested by the author. It elucidates a number of difficult problems of the genesis of the ore deposits in a new way. The hypothesis, however, requires further verification by special experimental, theoretical, and geological investigations. There is 1 reference, 1 of which is Soviet.

ASSOCIATION: Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii Akademii nauk SSSR (Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry, AS USSR)

SUBMITTED: June 21, 1958

ZHARIKOV, Vilen Andreyevich; KORZHINSKIY, D.S., akademik, glavnyy red.; SHABYNIN, L.I., otv.red.; FEODOT'YEV, K.M., red.izd-va; KOVICHKOVA, N.D., tekhn.red.

[Geology and metasomatic phenomena in deposits of skarns and complex metals in the western Kara-Mazar Mountains] Geologiia i metasomaticheskie iavleniia skarnovo-polimetallicheskikh mestorozhdenii zapadnogo Karamazara. Moskva, Izd-vo Akad.nauk SSSR. 1959. 370 p. (Akademiia nauk SSSR. Institut geologii rudnykh mestorozhdenii, petrografii, mineralogii i geokhimii. Trudy, no.14) (MIRA 12:5)

(Kara-Mazar Mountains--Ore deposits)
(Kara-Mazar Mountains--Skarns)

30(7) SOV/30-59-4-8/51

AUTHOR: Korzhinskiy, D. S., Academician

TITLE: The Annual Meeting of the American Geological Association (Godichnoye sobraniya Amerikanskogo geologicheskogo obshchestva)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 4, pp 88-89 (USSR)

ABSTRACT: The Annual Meeting took place in St. Louis (Sent-Lyuis), Missouri between November 6th and November 8th, 1958. Upon invitation of the Association K. A. Vlasov, Corresponding Member, Academy of Sciences, USSR, and the author of the present paper, members of the Otdeleniye geologo-geograficheskikh nauk Akademii nauk SSSR (Department of Geological and Geographical Sciences of the Academy of Sciences, USSR) attended the Meeting. The work was carried out by 15 committees; 300 reports were held. The author was mainly interested in petrology and was satisfied with the reports held on this field. He spoke about hydrothermal acid-alkaline differentiation. The laboratory of the Carnegie Institute was of particular interest as it combines a high degree of efficiency with a staff very small in number. The author mentions the electron temperature control equipments used there, which are capable of maintaining the furnace tem-

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SOV/11-59-4-15/16

AUTHOR: Korzhinskiy, D. S.

TITLE: The Annual Meeting of the Geological Society of the USA (Na godichnom sobranii geologicheskogo obshchestva SShA)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geologicheskaya, 1959, Nr 4, pp 121-127 (USSR)

ABSTRACT: The author, together with Corresponding Members of the AS USSR, K. A. Vlasov and V. V. Belousov were present at the annual meeting of the Geological Society of the U. S. A. in St. Louis and describes its proceedings and their impressions.

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SOV/20-128-2-45/59

5(0)

AUTHOR: Korzhinskiy, D. S., Academician

TITLE: Acid-basic Interaction of Components in Silicate Melts and the Direction of the Cotectic Lines

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 2, pp 383 - 386 (USSR)

ABSTRACT: The interaction mentioned in the title seems to be very important in the magmas in the mineral formation (Ref 4). This was confirmed by experimental investigations of slags. In melts of dry silicate systems the oxides are almost entirely ionized (Ref 5, p 292 and ff). In the ionization the basic oxides yield metal cations and oxygen anions whereas the acid oxides yield complex anions especially silicic acid which accumulates oxygen anions (see Scheme). Amphoteric oxides may, according to the basicity of the melts, behave either as bases or as acids (see Scheme). From this it may be seen that the oxygen anions in the silicate melts play the same role as the hydroxyl anions in the aqueous solutions of the electrolytes. For this reason the activity of the mentioned anions may serve as a measure of basicity. The author derives the equilibrium

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constant K (equation (1)) for the reaction $MO = M^{2+} + O^{2-}$ and from it equation (2) for the activity f_{MO} of the oxide MO in the melt. He finally obtains the equations (4) and (5) which show that with an increasing basicity of the melt (i.e. with increasing activity of the oxygen ions) the total coefficients of the activity of the basic oxides in the melt increase whereas they decrease in the acid components. This effect is ... higher the stronger the base or the acid, i.e. the stronger they are ionized. In the case of very strong bases and acids the right part of the two equations approaches 1 and the total coefficient of the activity of an oxide becomes thus proportional to the activity of the oxygen anion. The increase in the basicity of a melt by dissolving an additional component - a strong base - in it will increase the activity of all bases, especially of the stronger ones, whereas the activity of the acid oxides is reduced in this case. This also increases the crystallization temperatures of the bases, especially of the stronger ones, whereas those of the acid bases are reduced. Due to this fact the eutectic and cotectic interactions of the

components of the melts are bound to change. An increase in the basicity will increase the ranges of crystallization of the stronger bases at the expense of the less basic compounds and especially at the expense of the acid components and their compounds. As an example the author discusses a melt diagram of a 3-component system with mineral components A,B,C with similar melting points (Fig 1). The addition of the 3rd component does not change the eutectic interactions in two cases i.e. 1) if the addition does not change the basicity of the eutectic melt i.e. if this component has the same basicity as the melt; 2) if the minerals of the eutectic have the same basicity. The above assumptions are confirmed by the experimental diagrams of the fusibility of silicate systems (Fig 2). From these diagrams the following series may be set up for the decreasing basicity of the oxides in melts: K_2O, Na_2O > Li_2O > CaO > MgO > FeO > Fe_2O_3, Al_2O_3 > SiO_2 > P_2O_5, B_2O_3. This series corresponds to that of the increasing electronegativity, i.e. it corresponds to that in the aqueous solutions. From this it may be concluded that the change of the basicity of the melt due to the change

in the concentration of the additional components (especially of the mobile and the volatile magma component) may thoroughly change the eutectic interactions between the main components of the melt. There are 2 figures and 7 references, 5 of which are Soviet.

ASSOCIATION: Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii Akademii nauk SSSR (Institute of Geology of Ore Deposits, Petrography, Mineralogy, and Geochemistry of the Academy of Sciences, USSR)

SUBMITTED: June 12, 1959

KORZHINSKIY, D.S.

PHASE I BOOK EXPLOITATION SOV/5325

International Geological Congress. 21st, Copenhagen, 1960.

Granito-gneysy (Gneissose Granites) Kiyev, Izd-vo AN UKrSSR, 1960. 174 p. 1,000 copies printed. (Series: Doklady sovetskikh geologov, problema 14) Added t. p. in English.

Sponsoring Agency: Akademiya nauk Soyuza SSR. Akademiya nauk Ukrainskoy SSR. Ministerstvo geologii i okhrany nedr SSSR. Natsional'nyy komitet geologov Sovetskogo Soyuza.

Editorial Board: Resp.Eds.: N.P. Semenenko, D.S. Korshinskiy, and G.D. Afanas'yev; Ed. of Publishing House: V.N. Zaviryukhina; Tech. Ed.: A.A. Matveychuk.

PURPOSE: This book is intended for geologists and petrographers, as well as students of geology at schools of higher education.

COVERAGE: The book contains 13 articles representing the reports given by Soviet scientists at the 21st Session of the International Geological Congress. The individual reports deal with theoretical problems of metamorphism and interaction of magmatic masses, formation of granites, magmatic replacement in subeffusive facies, formation of scarns, and paragenetic analysis. Representatives

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of the following scientific institutions participated in the work: D.S. Korzhinskiy and V.A. Zharikov, of IGEM (Institute of Geology of Mineral Deposits, Petrography, and Geochemistry AS USSR); V.V. Tikhomirov, of the Institut geologii AN SSSR (Institute of Geology AS USSR); N.G. Sudovikov, Laboratoriya problem dokembriya (Laboratory of Precambrium Problems); N.P. Semenenko, R.I. Siroshtan, N.I. Polovko, Ya. N. Belevtsev, and A.I. Strygin of the Institut geologicheskikh nauk AN UkrSSR (Institute of Geological Sciences AS UkrSSR); V.S. Sobolev of the Institut geologii poleznykh iskopayemykh AN UkrSSR (Institute of Geology of Minerals AS UkrSSR) and L'vovskiy gosudarstvennyy universitet (L'vov State University); G.M. Zaridze, and N.F. Tatrishvili of the Geologicheskiy institut AN Gruzinskoy SSR (Geological Institute AS GruzSSR); G.L. Pospelov, Institut geologii i geofiziki Sibirskogo otdeleniya AN SSSR (Institute of Geology and Geophysics of the Siberian Department of the AS USSR); N.A. Govorov of the Dal'nevostochnyy filial AN SSSR (Far Eastern Branch of the AS USSR); and I.F. Trusova, of the Moskovskiy geologorazvedochnyy institut (Moscow Institute for Geological Exploration). An English resume accompanies each article. References follow individual articles.

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JA/dwm/gmp
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BETEKHTIN, A.G., KORZHINSKIY, D.S., SHATALOV, Ye.T., SHIPULIN, F.K.

Problems in geology. Geol. rud. mestorozh. no.2:94-110 Mr-Ap '60.
(MIRA 13:8)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.
(Geology, Economic)

S/007/60/000/005/003/004/XX
B002/B052

AUTHOR: Korzhinskiy, D. S.

TITLE: The Ambiguity of the Characterization of Thermodynamic Systems (Answer to A. V. Storonkin)

PERIODICAL: Geokhimiya, 1960, No. 5, pp. 465-466

TEXT: The Komissiya po khimicheskoy termodinamike (Commission of Chemical Thermodynamics) recently published its expert opinion confirming that the thermodynamic potentials suggested by the author for systems with perfectly mobile components actually hold for such systems, a fact that had been denied by V. A. Nikolayev and A. V. Storonkin. A. V. Storonkin points out that the definition of inert and perfectly mobile components in closed and open systems is ambiguous. Ya. I. Gerasimov also says that the definition of inert and fully mobile components previously given by the author differs from that of his later papers. The author admits that there is a certain ambiguity, which is due to the problem. Two types of processes are to be distinguished in the determination of thermodynamic systems: 1. processes of the establishment of equilibrium with constant

KORZHINSKIY, D.S.

Mineral parageneses of the system $MgO-SiO_2-H_2O-CO_2$ and the regime of water and carbon dioxide in metamorphism. Min. sbor. no.14:34-49 '60. (MIRA 15:2)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.
(Mineralogical chemistry)

KORZHINSKY, D.S.

Discussion on systems with completely mobile components and their thermodynamic potentials. Izv. AN SSSR. Ser. geol. 25 no.5:103-104 My'60. (MIRA 13:10)

(Minerals--Thermal properties)

SHATSKIY, N.S.; KORZHINSKIY, D.S.; YANSHIN, A.L.; PEYVE, A.V.; SHTREYS, N.A.; YABLOKOV, V.S.; TIKHOMIROV, V.V.

N.V.Frolova (1907-1960); obituary. Izv. AN SSSR. Ser. geol. 25 no.9:135 S '60. (MIRA 13:9)
(Frolova, Natal'ia Vasil'evna, 1907-1960)

S/076/60/034/007/037/042/XX
B004/B068

AUTHOR: Korzhinskiy, D. S.*

TITLE: Additional Notes on Extremal States (Answer to A. V. Storonkin)

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 7, pp. 1645 - 1646

TEXT: In his paper on extremal states (Ref.1), two errors were shown to be found in a paper by A. V. Storonkin (Ref.2) by the author. Storonkin wrote "Extreme pressure and temperature always coexist". From the text of the answer of Storonkin (Ref.3), the author concludes that Storonkin confesses this error. The second error of Storonkin is evident from the statement "The reverse theorem according to which extreme pressure and temperature are bound to occur when the composition of the coexisting phases is equal, is not generally valid". The author repeats once more his formulation of the direct and the reverse theorem of Gibbs and D. P. Konovalov, and proves the complete equivalence of the

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KORZHINSKIY, D.S., akademik

Characteristics of postmagmatic phenomena in volcanic formations as related to their depth. Dokl.AN SSSR 133 no.5:1194-1197 Ag '60. (MIRA 13:8)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii Akademii nauk SSSR.
(Metamorphism (Geology))

KORZHINSKIY, D.S.

Dependence of metamorphism on the depth of volcanic formations. (MIRA 14:9)
Trudy Lab.vulk. no.19:5-11 '61.
(Volcanoes) (Metamorphism (Geology))

ABDULLAYEV, Kh.M.; ALYAVDIN, V.F.; AMIRASLANOV, A.A.; ANIKEYEV, N.P.; ARAPOV, Yu.A.; BARSANOV, G.P.; BELYAYEVSKIY, N.A.; BOKIY, G.P.; BORODAYEVSKAYA, M.B.; GOVOROV, I.N.; GODLEVSKIY, M.N.; SHCHEGLOV, A.D.; SHAKHOV, F.N.; SHILO, N.A.; YARMOLYUK, V.A.; DRABKIN, I.Ye.; YEROFEYEV, B.N.; YERSHOV, A.D.; IVANKIN, P.F.; ITSIKSON, M.I.; KARPOVA, Ye.D.; KASHIN, S.A.; KASHKAY, M.A.; KORZHINSKIY, D.S.; KOSOV, B.M.; KOTLYAR, V.N.; KREYTER, V.M.; KUZNETSOV, V.A.; LUGOV, S.F.; MAGAK'YAN, I.G.; MATERIKOV, M.P.; ODINTSOV, M.M.; PAVLOV, Ye.S.; SATPAYEV, K.I.; SMIRNOV, V.I.; SOBOLEV, V.S.; SOKOLOV, G.A.; STRAKHOV, N.M.; TATARINOV, I.M.; KHRUSHCHOV, N.A.; TSAREGRADSKIY, V.A.; CHUKHROV, F.V.

In memory of Oleg Dmitrievich Levitskii; obiturary. Sov.geol. 4 no.5:156-158 My '61. (MIRA 14:6)
(Levitskii, Oleg Dmitrievich, 1909-1961)

AFANAS'YEV, G.D.; BARSANOV, G.P.; VLASOV, K.A.; KORZHINSKIY, D.S.; MIRCHINK, M.F.; NALIVKIN, D.V.; PAVLOVSKIY, Ye.V.; PEYVE, A.V.; SMIRNOV, V.I.; STRAKHOV, N.M.; CHUKHROV, F.V.; SHCHERBAKOV, D.I.; YABLOKOV, V.S.

Oleg Dmitrievich Levitskii; obiturary. Izv.AN SSSR.Ser.geol. 26 no.6:110-111 Je '61. (MIRA 14:6)
(Levitskii, Oleg Dmitrievich, 1909-1961)

ROTSHTEYN, Andrey Andreyevich; KORZHINSKIY, D.S., akademik, otv. red.; RYABCHIKOV, I.[translator]; MERGASOV, G.G., red. izd-va; GOLUB', S.P., tekhn. red.

[Magmatic facies of ultrabasic igneous rocks of the Toleit series as revealed by the studies of periodotites in Dawros, Connemara (Eire), and Belhelvie, Aberdeenshire (Scotland)] Magmaticheskie fatsii ul'traosnovnykh izverzhennykh porod toleitovoi serii; na primere peridotitov Davrosa, Konnemara (Eire) i Bel'khelvi, Aberdinshaera (Shotlandiia). Moskva, Izd-vo Akad. nauk SSSR, 1962. 42 p. (MIRA 15:11)
(Ultrabasite)

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KORZHINSKIY, D.S.

Physicochemical theory of petrologic processes. Izv. AN SSSR. Ser.-geol. 27 no.1:10-25 Ja '62. (MIRA 15:1)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.
(Petrology)

KORZHINSKIY, D.S.

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1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.
(Spilites) (Oceanography)

AFANAS'YEV, G.D.; BARSANOV, G.P.; VLASOV, K.A.; KORZHINSKIY, D.S.; MIRCHINK, M.F.; PAVLOVSKIY, Ye.V.; PEYVE, A.V.; SMIRNOV, V.I.; CHUKHROV, F.V.; SHCHERBAKOV, D.I.; YABLOKOV, V.S.

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KORZHINSKIY, D.S.

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1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.
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KORZHINSKIY, D.S.

Role of alkalinity in the formation of charnokite gneisses. Trudy VSGI Ser.geol. no.5:50-61 '62. (MIRA 15:9)

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KORZHINSKIY, D.S.

"Theory of external states and their significance for mineral systems.

Report presented at the conference on Chemistry of the Earth's Crust, Moscow, 14-19 Mar 63.

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[Chemistry of the earth's crust]Khimiia zemnoi kory; trudy. Moskva, Izd-vo Akad.nauk. Vol.1. 1963. 430 p. (MIRA 16:3)

1. Geokhimicheskaya konferentsiya, posvyashchennaya stoletiyu so dnya rozhdeniya akademika V.I.Vernadskogo, Moscow, 1963. (Geochemistry)

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Spilite problem and the transvaporization hypothesis in the light of the new volcanological and oceanological data. Analele geol geogr 17 no.2:61-67 Ap-Je '63.

KORZHINSKIY, D.S., akademik

Experimental studies in petrology and mineralogy. Vest.AN SSSR 33 no.4:38-44 Ap '63. (MIRA 16:4)
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KORZHINSKIY, D.S., akademik

Thermodynamic potentials of open systems in which the acidity and reduction potential are determined by external conditions. (MIRA 16:11)
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KORJINSKI, D.S. [Korzhinskiy, D.S.]

Ratio of the oxygen activity, and reducing potential in the endogenous formation of minerals. Analele geol geogr 17 no.4: 11-20 O-D '63.

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KORZHINSKIY, D.S.

Relation of oxygen activity acidity, and reduction potential in endogenetic mineralization. Izv. AN SSSR. Ser.geol. 28 no.3:54-62 Mr '63. (MIRA 16:2)

1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.
(Mineralogical chemistry)

KORZHINSKIY, D.S., akademik

Symposium on problems of postmagmatic ore formation. Vest. AN SSSR 33 no.12:75 D '63. (MIRA 17:1)

PERCHUK, Leonid L'vovich; KORZHINSKIY, D.S., akademik, glav. red.; ZHARIKOV, V.A., otv. red.

[Physicochemical petrology of the granitoid and alkali intrusions of the central Turkestan and Alay Ranges] Fiziko-khimicheskaia petrologiia granitoidnykh i shchelochnykh intruzii TSentral'nogo Turkestano-Alaia. Moskva, Izd-vo "Nauka," 1964. 240 p. (MIRA 17:6)

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(MIRA 17:10)

KORZHINSKIY, D.S.

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1. Institut geologii rudnykh mestorozhdeniy, petrografii, mineralogii i geokhimii AN SSSR, Moskva.